

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for visualization of a 3-dimensional (3-D) image, the method comprising acts of:

converting a 3-D scene model into a plurality of 3-D scene points;

providing at least a portion of the plurality of 3-D scene points to a 3-D display plane comprising 3-D pixels that are directionally modulated;

calculating at the 3-D pixels a contribution of light from the 3-D pixel to generate at least in part a scene point of the plurality of 3-D scene points; and

performing at least one of emitting and transmitting the light by each of the 3-D pixels that is calculated to contribute to the scene point, wherein the contribution of light of a 3-D pixel to a certain 3-D scene point is calculated within one 3-D pixel of a row or column prior to the provision of the 3-D scene points from the

one 3-D pixel that calculated the certain 3-D scene point to remaining 3-D pixels of the row or column that receive the calculated certain 3-D scene point, respectively such that one of the pixels of the row or column acts as a master pixel for the row or column, the master pixel being the 3-D pixel of a row or column that calculated the certain 3-D scene point while other pixels of the row or column act as slave pixels, the slave pixels being the 3-D pixels of a row or column that receive the calculated certain 3-D scene point from the master pixel.

2. (Previously presented) The method according to claim 1, wherein light is emitted and/or transmitted by 2-D pixels comprised within the 3-D pixels, each 2-D pixel directing light into a different direction contributing light to a scene point of the 3-D scene model.

3. (Previously presented) The method according to claim 1, wherein the 3-D scene points are provided sequentially, or in parallel, to the 3-D pixels.

4. (Previously presented) The method according to claim 1, wherein the calculation of the contribution of light of a 3-D pixel to a certain 3-D scene point is made previous to the provision of the 3-D scene points to the 3-D pixels.

5. (Canceled)

6. (Canceled)

7. (Currently amended) The method according to claim 1, wherein a slave 3-D pixel alters the co-ordinates of a 3-D scene point prior to putting out the altered 3-D scene point from the slave 3-D pixel to at least one neighboring slave 3-D pixel.

8. (Previously presented) The method according to claim 1, wherein if more than one 3-D scene point needs the contribution of light from one 3-D pixel, the depth information of the 3-D scene point is decisive.

9. (Previously presented) The method according to claim 1, wherein

2-D pixels of the 3-D display plane transmit and/or emit light only within one plane.

10. (Previously presented) The method according to claim 1, wherein color is incorporated by spatial or temporal multiplexing within each 3-D pixel.

11. (Currently amended) A 3-D display device, comprising:

a 3-D display plane with 3-D pixels, said 3-D pixels comprise an input port and an output port for receiving and putting out 3-D scene points of a 3-D scene, at least a portion of the 3-D pixels comprise a control unit located at the portion of 3-D pixels for calculating their own contribution to the visualization of a 3-D scene point representing the 3-D scene and for calculating a contribution to the visualization of a 3-D scene point representing the 3-D scene for each of a row or column to which a given 3-D pixel of the portion of 3-D pixels is a member, such that the given 3-D pixel of a row or a column acts as a master pixel for the row or column, the master pixel being the 3-D pixel of a row or column that calculated the contribution to the visualization of the 3-D

scene point representing the 3-D scene for each of a row or column to which the given 3-D pixel of the portion of 3-D pixels is a member, while other pixels of the row or column act as slave pixels, the slave pixels being the 3-D pixels of a row or column that receive the calculated contribution to the visualization of the 3-D scene point from the master pixel.

12. (Previously presented) The 3-D display device according to claim 11, wherein the 3-D pixels are interconnected for parallel and serial transmission of 3-D scene points from a 3-D pixel to neighboring 3-D pixels.

13. (Previously presented) The 3-D display device according to claim 11, wherein the 3-D pixels comprise a spatial light modulator with a matrix of 2-D pixels.

14. (Previously presented) The 3-D display device according to claim 13, wherein the 3-D pixels comprise a point light source, providing the 2-D pixel with light.

15. (Previously presented) The 3-D display device according to claim 13, wherein the 3-D pixels comprise registers for storing a value determining which ones of the 2-D pixels within the 3-D pixel contribute light to a 3-D scene point.

16. (Previously presented) The method of claim 1, wherein the calculating of the contribution comprises calculating whether a current 3-D scene point is closer to a viewer than a past 3-D scene point.

17. (Previously presented) The 3-D display device of claim 11, wherein the control unit calculates whether a current 3-D scene point is closer to a viewer than a past 3-D scene point.

18. (Previously presented) The method of claim 1, wherein each 3-D scene point has co-ordinates x, z, y and a luminance value.

19. (Currently amended) A method for visualization of a 3-dimensional (3-D) image, the method comprising acts of:

converting a 3-D scene model into a plurality of 3-D scene

points;

providing at least a portion of the plurality of 3-D scene points to a 3-D display plane comprising 3-D pixels that are directionally modulated;

calculating at each of the 3-D pixels a contribution of light from the 3-D pixel to generate at least in part a scene point of the plurality of 3-D scene points; and

performing at least one of emitting and transmitting the light by each of the 3-D pixels that is calculated to contribute to the scene point, wherein a 3-D pixel alters the-received co-ordinates of a 3-D scene point prior to putting out the altered 3-D scene point from the 3-D pixel that altered the 3-D scene point to at least one neighboring 3-D pixel that receives the altered 3-D scene point and wherein for each 3-D pixel that receives an altered 3-D scene point, the act of calculating at the 3-D pixel comprises an act of calculating the contribution of light from the 3-D pixel based on the altered 3-D scene point.

20. (Previously presented) The method of claim 18, wherein the altered 3-D scene point is altered to account for the relative

difference in position between two 3-D pixels.

21. (Previously presented) The method of claim 18, wherein the act of calculating is performed without a use of global position information.